

## ABSTRACT

5 A superconducting wire (10) formed of a metal substrate and an overlying  
superconducting layer (3), the metal substrate being a textured metal substrate and  
planarized to have a surface layer extending from a surface thereof to a depth of 300 nm  
with a crystal axis offset relative to an orientation axis by at most  $25^\circ$  and a surface  
roughness  $R_{P-V}$  of at most 150 nm, and a method of producing the wire. The surface  
layer's biaxial texture can be maintained while the substrate can have a surface  
planarized, and a highly superconductive wire and achieve a method of producing the  
10 same can thus be achieved.